

REMARKS

Claims 21 through 25 having been withdrawn from consideration, Claims 1 through 20 are presented for examination. Claims 1, 10 and 19 have been amended to even more succinctly define the invention and/or to improve their form. Claims 1, 10 and 19 are the only independent claims pending in the application.

Claims 1-6, 8-12 and 14-18 have been rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 6,333,602 (Kayser) in view of U.S. Patent 5,726,739 (Hayata). Claims 7 and 13 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Kayser in view of Hayata and further in view previously cited U.S. Patent 6,104,204 (Hayama et. al.).

Independent Claim 1 as currently amended is directed to semiconductor manufacturing apparatus having a light source and a lighting device. In the lighting device, an electrical power source unit supplies electricity to the light source and a starter unit lights the light source. A first unit coupled to the lighting device moves the lighting source in a first direction and a second unit coupled to the lighting device moves the lighting device in a second direction. The starter unit has a metal piece connecting the lighting device to the light source. A third unit moves the metal piece and the connected light source relative to the connected lighting device in a third direction.

Independent Claim 10 as currently amended is directed to semiconductor manufacturing apparatus having a light source and a lighting device that lights the light source. A connector connects the light source and the lighting device with a metal piece. A first unit coupled to the lighting device moves the lighting device in a first direction and a second unit

coupled to the lighting device moves the lighting device in a second direction. A third unit in the lighting device moves the metal piece and the connected light source relative to the connected lighting device in a third direction.

In Applicant's view, Kayser discloses a light source in which a sensor senses operational parameters of a light generator. A light source data storage device is integrated with the light generator and operates coupled to the sensor, to store operating data correlated to the operational parameters of the light emitter. The light source also typically has a light source housing, to which are mounted the light generator, the sensor and the light source data storage device.

In Applicant's opinion, Hayata discloses a projection exposure apparatus that has a secondary light source forming device with a light entrance surface and a light exit surface which receives light from a light source with the light entrance surface and forms a secondary light source at the light exit surface side. A light projecting system projects light from the secondary light source to an object plane. A pattern projecting system projects, onto an image plane, a pattern on the object plane irradiated with the light. A secondary light source adjusting device changes the light intensity distribution of the secondary light source and an illuminance correcting device substantially corrects illuminance non-uniformness, asymmetric with respect to an optical axis, formed or to be formed on the image plane with the change of the light intensity distribution.

According to the invention of Claims 1 and 10 as currently amended, a first unit coupled to a lighting device moves the lighting device in a first direction and a second unit

coupled to the lighting device moves the lighting device in a second direction. In Claim 1, a third unit in the starter moves a metal piece that connects the lighting device to a light source relative to the connected lighting device in a third direction; and in Claim 10, a third unit in the lighting device moves the metal piece connecting a light source and the lighting device and the connected light source relative to the connected lighting device in a third direction. The first and second units (26 and 27) for moving the lighting device (8) are shown in Fig. 5 and the third unit in the lighting device (8) for moving the light source (7) and the metal piece (20) relative to the lighting device are disclosed at least in paragraphs 0070 and 0071 of the specification with respect to Fig. 6. No new matter is believed to have been added. Advantageously as disclosed in paragraph 0071, the arrangement of having the Z direction drive in the lighting device accommodates the required large Z direction driving force.

Kayser teaches a light emitting device which has a socket mounted to the device housing (e.g., by a clamp 118) that releasably engages a light source. The Kayser structure, however, is devoid of any suggestion of a metal piece connecting a lighting device to a light source or a driving unit in the lighting device which moves the metal piece and a connected light source relative to the lighting device as in Claims 1 and 10. Accordingly, It is not seen that Kayser's light source socket mounted to a device housing in any manner teaches or suggests the arrangement of the present invention.

As noted by the Examiner, Kayser fails to mention any arrangement in which a light source has a single metal connection. Hayata may teach a light emitting tube 1 and actuators 101, 102 and 103 for adjusting the position of the light emitting tube in different

directions which are connected to the light emitting tube at a single point. As shown in Fig 1 of Hayata, the actuators connected at a single point operate independently to adjust the position of the light emitting tube 1. Hayata, however, fails in any manner to suggest an arrangement in which an actuator for one direction movement of a metal piece and a light source relative to a lighting device is mounted in the lighting device with the lighting device being moved by a pair of different direction actuators. In contrast to Hayata, it is a feature of Claims 1 and 10 that first and second units coupled to the lighting device move the lighting device in first and second directions while a third unit included in the lighting device moves the metal piece and a connected light source relative to the connected lighting device in a third direction. Accordingly, it is not seen that Hayata's three actuators connected to a light source at a single point for independent adjustment in three different directions could possibly suggest the features of Claims 1 and 10.

With regard to the cited combination, Kayser fails to teach or suggest any arrangement in which a metal piece in a starter unit connects a lighting device to a light source. Hayata only teaches actuators 101, 102 and 103 for adjusting in different directions which are connected to a light source at a single point and operate independently as shown in Fig. 1 and is devoid of any suggested arrangement of actuators in which one actuator is in a lighting device moved by two other actuators and the one actuator moves a metal piece and a connected light source relative to the lighting device as in Claims 1 and 10. Accordingly, it is not seen that the addition of Hayata's three independently operated actuators connected to a light emitting device at single point to Kayser's light source that is devoid of a light source with a single metal

connection could possibly suggest the features of Claims 1 and 10 of first and second units coupled to a lighting device to move the lighting device in first and second directions while a third unit included in the lighting device moves the metal piece and the light source relative to the connected lighting device in a third direction. It is therefore believed that Claims 1 and 10 as currently amended are completely distinguished from any combination of Kayser and Hayata and are allowable.

Claims 19 and 20 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Kayser in view of Hayata and further in view of U.S. Patent Publication 2001/0047213 (Sepe, Jr.).

Independent Claim 19 as currently amended is directed to semiconductor manufacturing apparatus in which a computer with a display, a network interface and networking software provides data communications of maintenance information through the computer network. A lamp box in the semiconductor manufacturing apparatus has a light source, a lighting device that lights the light source and a connector that connects the light source and the lighting device with a metal piece. A first unit coupled to the lighting device moves the lighting device in a first direction and a second unit coupled to the lighting device moves the lighting device in a second direction. A third unit in the lighting device moves the metal piece and the connected light source relative to the connected lighting device in a third direction.

Sepe, Jr., in Applicant's view, is understood to disclose a remote web based control arrangement that provides real-time remote monitoring and control of a device via a network such as the Internet. A virtual presence is accomplished between geographically

distributed remote users and hardware platforms that allow for real-time interactive hardware operation. Using Internet based communications such as e-mail or browser based sessions, a series of remote instructions are sent from a remote computer based device to the device to be monitored and controlled. This operation includes data monitoring, system control, system tuning, distributed learning, distributed monitoring, remote servicing and hardware reconfiguration. Furthermore, monitored data is exchanged between the device being monitored and the remote electronic-based device can be in a spreadsheet format.

According to the invention of Claim 19 as currently amended, a light source and a lighting device are connected with a metal piece and first and second units move the lighting device in first and second directions, respectively. A third unit in the lighting device moves the metal piece and the connected light source relative to the connected lighting device in a third direction. These limitations are disclosed in the specification with respect to Figs. 5 and 6. No new matter is believed to have been added.

As discussed with respect to Claims 1 and 10, Kayser only teaches a light emitting device which has a socket mounted to the device housing that releasably engages a light source but fails to suggest any arrangement in which a light source has a single metal connection to a lighting device. Hayata is limited to an arrangement in which three actuators connected at a single point operate independently to adjust the position of the light emitting tube 1 but is devoid of any suggestion of an arrangement in which an actuator for one direction movement of a metal piece and a light source is mounted in a lighting device that is moved by a pair of different direction actuators. It is therefore not seen that the addition of Hayata's three independently

operated actuators connected to a light at single point to a light emitting device to Kayser's light source arrangement that is devoid of a light source with a single metal connection could possibly suggest the features of Claim 19 of first and second units coupled to a lighting device to move the lighting device in first and second directions while a third unit included in the lighting device moves the metal piece and the light source relative to the connected lighting device in a third direction. Sepe , Jr. may teach remote monitoring that includes the transmission of maintenance information. It is not seen, however, that the addition of Sepe, Jr.'s remote monitoring to Kayser's light source arrangement devoid of the light source having a single metal connection and Hayata's three independently operated actuators connected to a light at single point to a light emitting device could possibly suggest the features of Claim 19. It is therefore believed that Claim 19 as currently amended is completely distinguished from any combination of Kayser, Hayata and Sepe, Jr. and is allowable.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record. Applicant submits that the amendments to independent Claims 1, 10 and 19 clarify Applicant's invention and serve to reduce any issues for appeal.

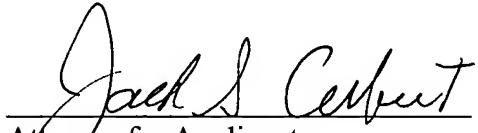
The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is

respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable consideration and reconsideration and early passage to issue of the present application. The Examiner is respectfully requested to enter this Amendment After Final Action under 37 C.F.R. § 1.116.

Applicants' attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our New York office at the address shown below.

Respectfully submitted,

  
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